rejections asserted in the Office Action of October 1, 1998 were discussed. The substance of the interview is incorporated into this amendment and the following remarks, which the Examiner agreed to fully consider.

II. Information Disclosure Statement

In the Office Action of October 1, 1998, the Examiner indicated that the references submitted in support of the Declaration of Dr. Woods would not be listed on the front of the patent unless they were submitted in an Information Disclosure Statement. Applicants did not submit these references in an Information Disclosure Statement because they were not considered to be material to the patentability of the claimed invention and/or were considered cumulative with respect to previously submitted references. However, because the Examiner cited the Sette, Hudrisier, and Karin references submitted with the Declaration in support of her enablement rejections, these references should be listed on the face of the patent.

III. Rejection of Claims 4, 6, 9, 11, 24, 26-27, 29, 66-70 and 72-73 Under 35 U.S.C. §112, First Paragraph

Claims 4, 6, 9, 11, 24, 26-27, 29, 66-70 and 72-73 were rejected under 35 U.S.C. §112, first paragraph. The Examiner asserts that these claims are not enabled by the specification in view of Sercarz, Sebzda, Jameson, Livingstone, Jameson, Hsu, Feldman, Evavold, and the abstract of Evavold. The Examiner also cites Bluestone, Sette, Hudrisier, and Karin in support of the rejection under 35 U.S.C. §112, first paragraph. In particular, the Examiner asserts that the preceding references indicate that the identification of T cell receptor antagonists is unpredictable. In view of this alleged unpredictability, the Examiner asserts that the specification fails to enable the claimed compositions.

As discussed during the interview of March 10, 1999, the claimed invention is not about identifying T cell receptor antagonists. Rather, as indicated in the above amendment to Claim 66, the claimed invention is about linking a compound known to be a T cell receptor antagonist to an immunoglobulin or portion thereof using procedures such as those set forth in Example II. Since the claims as amended above recite compositions comprising known T cell receptor antagonists, whether or not the identification of a T cell antagonist is a complicated endeavor is immaterial to the patentability of the claimed compositions. The invention is not about discovery of compounds, but rather is about compositions for delivering a known class of compounds in a unique manner.

During the interview of March 10, 1999, the Examiner asserted that the specification did not enable the claimed invention because the structures of T cell antagonists are unpredictable. The

compositions of the present invention comprise a generic class of molecules, T cell receptor antagonists, which have properties which allow those skilled in the art to appreciate whether a particular molecule falls within the generic class. The articles by Sette, Liu and Wraith, and Karin *et al.*, as well as the abstracts of Windhagen *et al.*, Tsitoura *et al.*, Madrenas *et al.*, and the two abstracts by Sloan-Lancaster *et al.*, which accompanied the Woods Declaration submitted June 1, 1998, describe the preparation of T cell receptor antagonists and confirm that T cell receptor antagonists are a class of molecules having properties which make them readily recognizable by those skilled in the art. These references also show that a number of T cell receptor antagonists are known, and the art will undoubtedly continue to identify additional antagonists. A person using the present invention can use any such antagonists, with no requirement of engaging in original discovery work.

As discussed in the interview of March 10, 1999, where a claim recites an art-recognized class of molecules, it is not necessary for Applicants to recite the specific structures of the members of this class in the claims. By analogy, if one has invented a housing having a novel and nonobvious structure for packaging a computer readable data storage medium, it is not necessary for Applicants to recite the structure of the computer readable device because, while there are a wide variety of computer readable devices known in the art and others yet to be discovered, those skilled in the art are readily able to appreciate whether a particular device to be placed in the housing is a computer readable device. It is understood that the invention is about the housing and its combination with this type of device, and is not about the device itself. Similarly, because T cell receptor antagonists are a known class of molecules having readily-measured characterizing properties, it is not necessary to recite their structure in combination claims of this type that are directed to a packaging or delivery composition.

For the foregoing reasons, the specification fully enables the claims as amended above and withdrawal of the rejection of Claims 4, 6, 9, 11, 24, 26-27, 29, 66-70 and 72-73 under 35 U.S.C. §112, first paragraph is respectfully requested.

IV. Rejection of Claims 4, 6, 9, 11, 24, 26-27, 29, 66-70, and 72-73 Under 35 U.S.C. §103

Claims 4, 6, 9, 11, 24, 26-27, 29, 66-70, and 72-73 were rejected under 35 U.S.C. §103 as being obvious over the combination of Kuchroo *et al.*, Mueller *et al.*, WO94/14847, U.S. Patent No. 5,508,386, Kappler, Selick *et al.* (WO 93/10220), and Bona *et al.* The Examiner has not specified whether the reference by Kuchroo *et al* is the publication in the Journal of Immunology 148: 3776-

3782 or the publication in the Journal of Immunology 153: 3326-3336. However, as discussed below, the present invention is not obvious over the cited combination of references.

In order for a combination of references to render an invention obvious, the references must provide motivation to create the claimed invention. The cited references do not provide motivation to create the claimed invention because they do not describe or suggest compositions comprising a known T cell receptor antagonist and an immunoglobulin or portion thereof.

In general, the references discuss either the use of an immunoglobulin to deliver a known antigen for generating an immune response against that antigen, or they disclose T cell receptor antagonists. However, absent hindsight, there is no suggestion or motivation to substitute a T-cell receptor antagonist for an antigen in the prior art vaccine disclosures. Nor is there a teaching from which one would get a reasonable expectation of success. The fact that both the antigens and the T cell receptor antagonists fall under the broad heading of "peptides" is immaterial. First, the references do not generically teach use of immunoglobulins to deliver all peptides for all purposes (as opposed to delivery for generating an immune response). Secondly, even if there was such a general teaching, of the many millions of conceivable peptides, there is no direction or motivation to select T-cell receptor antagonists.

Kuchroo *et al.* (Journal of Immunology 148: 3776-3782) describes a synthetic peptide comprising residues 139-151 of the myelin proteolipid protein and the use of the synthetic peptide to induce an autoimmune disease in mice. There is no mention or suggestion in Kuchroo of compositions comprising T cell receptor antagonists and immunoglobulins or portions thereof.

Kuchroo *et al.* (Journal of Immunology 153: 3326-3336) discloses T cell receptor antagonists comprising residues 139-151 of the myelin proteolipid protein. However, there is no disclosure or suggestion in this reference of linking the T cell receptor antagonist to an immunoglobulin or portion thereof.

Likewise, Mueller discloses a variety of molecules related to the human proteolipid protein or myelin basic protein. However, the molecules disclosed in Mueller are not coupled to an immunoglobulin or portion thereof and are not T cell receptor antagonists. Thus, there is no mention or suggestion in Mueller of T cell receptor antagonists or compositions comprising a T cell receptor antagonist and an immunoglobulin or portion thereof.

Zanetti *et al.* (both U.S. Patent No. 5,508,386 and WO 94/14847) disclose the insertion of antigens into the CDR of an antibody in order to obtain an immune response against the antigen.

However, there is no disclosure or suggestion in the Zanetti references of inserting T cell receptor antagonists into an antibody in order to suppress an immune response.

Similarly, Bona *et al.* focuses on antibodies having antigens inserted therein. There is no disclosure or suggestion in Bona *et al.* of inserting T cell receptor antagonists into an antibody.

Kappler discloses antigenic peptides linked to MHC molecules. The compositions of Kappler do not contain an immunoglobulin or a portion thereof, nor do they contain a T cell receptor antagonist.

Selick discloses compositions comprising an MHC molecule and an immunoglobulin. Selick also discloses that in some embodiments an antigen can be linked to the MHC molecule to enable it to be presented to T cells. However, there is no disclosure or suggestion in Selick of compositions comprising a T cell receptor antagonist linked to an immunoglobulin or portion thereof.

Because the combination of the above references does not disclose or suggest compositions comprising a known T cell receptor antagonist linked to an immunoglobulin or a portion thereof, the claimed invention is not obvious over the cited combination of references.

V. Conclusion

In view of the foregoing, it is submitted that the claims are in condition for allowance. Reconsideration and withdrawal of the rejections is respectfully requested. Should the Examiner have any questions regarding this matter she is invited to telephone the undersigned so that the questions may be resolved.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: _____ By: _____

Daniel Hart
Registration No. 40,637
Attorney of Record
620 Newport Center Drive
Sixteenth Floor
Newport Beach, CA 92660
(619) 235-8550

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